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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,518	07/28/2003	Gregory A. Ehlers	68,180-007	4284
26753	7590	05/31/2005	EXAMINER	
ANDRUS, SCEALES, STARKE & SAWALL, LLP 100 EAST WISCONSIN AVENUE, SUITE 1100 MILWAUKEE, WI 53202			SHECHTMAN, SEAN P	
			ART UNIT	PAPER NUMBER
			2125	

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/628,518

Applicant(s)

EHLERS ET AL.

Examiner

Sean P. Shechtman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16, 20-56, 60-79 and 81-103 is/are pending in the application.
- 4a) Of the above claim(s) 1-10, 21-52, 66-79 and 81-83 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-16, 20, 53-56, 60-65 and 84-103 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 11-16, 20, 53-56, 60-65, and 84-103 are presented for examination. Claims 11-16, 20, 53-56, 60-63 have been amended. Claims 17-19, 57-59, and 80 have been cancelled. Claims 84-103 have been added. Claims 1-10, 21-52, 66-79, and 81-83 have been withdrawn.

2. In the claim listing, applicant inadvertently forgot to list the status of claims 56 and 62 indicated after its claim number by using the currently amended identifier in parenthetical expression. Any further amendments will be required to meet the guidelines set forth in 37 CFR § 1.121.

#### ***Drawings***

3. Objections withdrawn due to the amendment.

#### ***Specification***

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification fails to provide for the limitation of the comfort level scenario selected by the energy provider. Furthermore, the specification fails to provide for displaying the current characteristic of energy using a color.

#### ***Claim Objections***

5. Claim 94 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 94 requires the limitation of a comfort level scenario

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selectable by the user, however claim 11, from which claim 94 depends, already requires the limitation of an input from the user including a selection of a comfort level scenario.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 93 and 95 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The examiner respectfully submits that the original application fails to provide for the limitation of the comfort level scenario selected by the energy provider. Disclosure in an application that merely renders the later-claimed invention obvious is not sufficient to meet the written description requirements of 35 U.S.C 112, first paragraph. *Lockwood, v. American Airlines, Inc.* 41 U.S.P.Q.2d. 1961, 1966 (Fed. Cir. 1997).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 93, 95, 98, and 103 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claims 93 and 95 recite the limitation of the comfort level scenario selected by the energy provider, however claim 11, from which claims 93 and 95 depend, recites the limitation

of an input from the user including a selection of a comfort level scenario. Therefore, it is unclear how the energy provider can select the comfort level scenario when it is already selected by the user.

8. Referring to claim 88, it is unclear which system is "the system".

9. Claims 98 and 103 recite the limitation "the predetermined number of degrees" in line 3. There is insufficient antecedent basis for this limitation in the claim.

10. Claims 98 and 103 recite the limitation "the predetermined percentage increase or decrease" in line 3. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 11-14, 53, 54, 61-65, 86-97, 99-102 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,924,486 to Ehlers (See IDS filed 4/20/04).

Referring to claims 11 and 53, Ehlers clearly teaches a system for managing environmental comfort at a site, the site having a temperature and environment management system (Abstract), the temperature and environment management system being supplied with energy from an energy provider (Abstract; Col. 3, lines 8-12; Col. 19, lines 1-8), comprising:

a humidity sensor for sensing humidity at the site and a temperature sensor for sensing air temperature at the site (Fig. 3, element 8); and

a thermostatic device in communication with the energy provider to receive a current characteristic of energy (Figs. 6-7; Col. 8, lines 36-61; Col. 16; Fig. 5), the thermostatic device being coupled to the humidity sensor and the temperature sensor and configured for receiving

input from a user (Fig. 3, element 30; See also Col. 32, lines 38-55), the input including a temperature setpoint (Col. 9, line 66 - Col. 10, line 14) and a selection of one of a plurality of comfort level scenarios, the thermostatic device for determining an effective setpoint as a function of the temperature setpoint and the sensed humidity (Col. 7, lines 16-37; Col. 12, line 47 - Col. 13, line 4; See also Col. 32, lines 38-55) and for controlling the temperature and environment management system (Col. 14, lines 12-19) to maintain air temperature at the site within a deadband defined by the effective setpoint and an offset (Col. 7, lines 37-52; Col. 15, line 64 - Col. 16, lines Fig. 5), wherein the offset is based on the selected comfort scenario and the current characteristic of the energy (Col. 7, lines 26-30; Fig. 5, Col. 16, lines 5-16).

Ehlers clearly teaches input interface 14 allows user input of temperature setpoint (Col. 9, line 66 – Col. 10, line 13). Ehlers clearly teaches input function 15 provides interface for temperature and humidity sensors (Col. 10, lines 15-30). Ehlers clearly teaches process function reads sensor inputs and user data and based on the data, a setpoint temperature variance is determined to provide the proper control to meet user requirements, including a deadband and minimum and maximum temperature range (Col. 12, lines 47-67). Ehlers' clearly teaches output provides control of heating and cooling equipment based on said process function (Col. 14, lines 12-19).

Referring to claim 12, Ehlers teaches the system and method above, wherein the thermostatic device includes a processor (Col. 7, lines 16-30), a communications channel coupled to the temperature and environment management system (Col. 7, lines 53-58), a display coupled to the processor (Col. 7, lines 36-44), and a control panel coupled to the processor for receiving the input from the user (Col. 7, lines 1-10).

Referring to claims 13 and 54, Ehlers teaches the system and method above, wherein the thermostatic device receives a current characteristic of the energy and displays the characteristic on the display (Col. 16; Fig. 5; Col. 30, lines 30-35).

Referring to claim 14, Ehlers teaches the system and method above, wherein the display and control panel are implemented in a graphic user interface (Col. 13, line 62 - Col. 14, line 10; Col. 14, lines 65-67).

Referring to claim 61, 86, 100, Ehlers teaches the method above, further including the step of allowing the user to define a plurality of occupancy modes, each occupancy mode having a user defined temperature setpoint and selected comfort level scenario (Col. 4, lines 47-50; Col. 21, line 56 - Col. 22, line 3).

Referring to claim 62, 87, Ehlers teaches the method above, wherein each occupancy mode includes a default comfort level scenario (Col. 4, lines 47-50).

Referring to claim 63, 88, Ehlers teaches the method above, wherein *at least one* occupancy mode has an associated recovery time (Col. 39, lines 48-60), the recovery time being a desired time period in which the temperature and environment management system transitions between a previous occupancy mode and the *at least one* occupancy mode (Col. 29, line 25 - Col. 30, line 24; Col. 33, line 60 - Col. 34, line 3).

Referring to claim 64, 89, Ehlers teaches the method above, including the step of allowing the user to set *at least one* start time for the *at least one* occupancy mode (Col. 29, lines 33-35).

Referring to claim 65, 90, Ehlers teaches the method above, including the step of transitioning from the previous occupancy mode to the *at least one* occupancy mode at a time

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equal to the *at least one* start time minus the recovery time (Col. 29, lines 25-35; Col. 39, lines 21-23 and 48-60).

Referring to claim 84, Ehlers teaches the above, wherein the characteristic of energy is the cost of energy (See Fig. 5, horizontal axis).

Referring to claim 85, 99, Ehlers teaches the above, wherein the characteristic of energy includes a plurality of levels including low, medium, high and critical, wherein the offset is determined for each of the characteristic levels of energy within each scenario (Fig. 5; Col. 9, lines 35-50; Col. 10, lines 7-13).

Referring to claim 91, 101, Ehlers teaches the above, wherein the comfort level scenarios are related to the user's willingness to pay for the energy (Col. 20, lines 28-35).

Referring to claim 92, 102, Ehlers teaches the above, wherein the plurality of comfort level scenarios include at least maximum savings, balanced savings and comfort, and maximum comfort (Col. 17, lines 4-62; Col. 3, lines 13-24).

Referring to claims 93-95, Ehlers teaches the above, wherein the comfort level scenario is selected by either the energy provider or the user (Col. 20, lines 28-35) and the user selects the temperature setpoint (Col. 9, line 66 - Col. 10, line 14).

Referring to claims 96 and 97, Ehlers teaches the above, wherein the current characteristic of energy is displayed using at least one of a color, a size, and a number of symbols, to provide an indication of the relative cost of energy (Col. 14, line 65 – Col. 15, line 9, Col. 15, lines 44-58; Col. 18, lines 55-65).

***Claim Rejections - 35 USC § 103***



The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12. Claims 15, 16, 20, 55, 56, 60, 98, 103 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,924,486 to Ehlers as applied to claims 11-14, 17-19, 53, 54, 57-59, and 61-65 above, and further in view of U.S. Pat. No. 3,181,791 to Axelrod.

Referring to claims 16, 56, 98, 103, Ehlers teaches the system and method above, wherein the thermostatic device tracks user adjustments to the temperature setpoint and responsively modifies *at least one of* a predetermined number of degrees in the predetermined percentage increase or decrease in relative humidity to adjust the effective setpoint for each mode (Col. 12, lines 47-67; Col. 14, lines 12-19; Col. 32, lines 38-55).

Referring to claims 20 and 60, Ehlers teaches the system and method above, wherein the temperature and environment management system includes *at least one of* a humidifier and a de-humidifier (Col. 10, lines 15-30; Col. 13, lines 6-22; Col. 14, lines 20-28), wherein the thermostatic device controls the *at least one of* a humidifier and a de-humidifier as function of the effective setpoint, the predetermined offset (Col. 38, lines 6-21).

Referring to claims 20 and 60, Ehlers teaches all the limitations set forth above, however Ehlers fails to teach the thermostatic device controls the *at least one of* a humidifier and a de-humidifier as function of the effective setpoint, the predetermined offset, and the sensed temperature and humidity.

Referring to claims 15 and 55, Ehlers teaches all the limitations set forth above, however Ehlers fails to teach the system and method above, wherein the effective setpoint is equal to the

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temperature setpoint plus a predetermined number of degrees per a predetermined percentage decrease in relative humidity for cooling applications and the effective setpoint is equal to the temperature setpoint minus a predetermined number of degrees per a predetermined percentage increase in relative humidity for heating applications.

However, Axelrod teaches analogous art, wherein a system for managing environmental comfort at a site, the site having a temperature and environment management system comprises: a humidity sensor for sensing humidity at the site and a temperature sensor for sensing air temperature at the site (Fig. 1, elements 20 and 30); and an thermostatic device coupled to the humidity sensor and the temperature sensor for receiving input from a user, the input including a temperature setpoint (Col. 3, lines 31-43; Col. 5, lines 30-33), the thermostatic device for determining an effective setpoint as a function of the temperature setpoint and the sensed humidity (Col. 3, lines 44-70) and for controlling the temperature and environment management system to maintain air temperature at the site with a deadband defined by the effective setpoint and an offset (Fig. 1; Col. 2, line 37- Col. 3, line 8), wherein

referring to claims 15 and 55, Axelrod teaches the system and method above, wherein the effective setpoint is equal to the temperature setpoint plus a predetermined number of degrees per a predetermined percentage decrease in relative humidity for cooling applications and the effective setpoint is equal to the temperature setpoint minus a predetermined number of degrees per a predetermined percentage increase in relative humidity for heating applications (Fig. 1; Col. 3, lines 44-70); and wherein

referring to claims 20 and 60, Axelrod teaches the system and method above, wherein the temperature and environment management system includes *at least one of* a humidifier and a de-

humidifier (Fig. 2, element 75), wherein the thermostatic device controls the *at least one of* a humidifier and a de-humidifier as function of the effective setpoint, the predetermined offset, and the sensed temperature and humidity (Fig. 1; Col. 2, line 37- Col. 3, line 8).

Therefore it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the teachings of Ehlers with the teachings of Axelrod.

One of ordinary skill in the art would have been motivated to combine these references because Axelrod teaches an automatic comfort control system responsive to a plurality of mathematical definitive conditions for regulating an environment to any one of the definitive conditions in accordance with the actual conditions sensed therein. Furthermore, Axelrod teaches an improved control system responsive to a plurality of variables for providing regulation to any one of a plurality of preferred coordinate variable conditions and for maintaining a substantially constant effective temperature in a controlled environment. Further still, Axelrod teaches an improved system for maintaining said substantially constant effective temperature by controlling both temperature and humidity within a sensed environment in a manner so as to utilize the temperature and humidity control equipment to maximum efficiency by minimum usage. Further still, Axelrod teaches a comfort zone computer for controlling the humidity control system and temperature control system in accordance with the sensed temperature and humidity (Col. 1, lines 39-72).

#### ***Response to Arguments***

Applicant's arguments filed March 4<sup>th</sup> 2005 have been fully considered but they are not persuasive.

13. Applicant argues that Ehlers fails to teach a thermostatic device for determining an effective setpoint as a function of the temperature setpoint and the sensed humidity. The examiner respectfully disagrees.

Ehlers clearly teaches input interface 14 allows user input of temperature setpoint (Col. 9, line 66 – Col. 10, line 13). Ehlers clearly teaches input function 15 provides interface input for temperature and humidity sensors (Col. 10, lines 15-30; See also Col. 32, lines 38-55). Ehlers clearly teaches that all input functions collect data from input devices and “pass the data to function 21 for storage” (Col. 10, lines 46-48). Ehlers clearly teaches process function reads function 21 for the sensor inputs and user data and based on the data, a setpoint temperature variance is determined to provide the proper control to meet user requirements (Col. 12, lines 47-67). The examiner respectfully submits that a setpoint temperature variance determined to provide the proper control to meet user requirements based on data from the user input of temperature setpoint and temperature and humidity sensors is a thermostatic device for determining an effective setpoint as a function of the temperature setpoint and the sensed humidity.

14. Applicant argues that Ehlers fails to teach that the offset is based on the selected comfort level scenario and the current characteristic of energy. The examiner respectfully disagrees.

Ehlers clearly teaches and shows controlling the temperature within a premises to remain within user-inputted maximum and minimum comfort points and energy cost cutoff points (See Fig. 5, Col. 7, lines 26-30; See also Col. 18, lines 13-20). For example, the dead-band degree range of + or – 1 degree for a + or – 1 degree selected comfort level scenario given a cost per unit of energy of less than or equal to 4 (See Fig. 5, Col. 16, lines 5-16).

15. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "allowing the user to select a comfort level scenario based on the willingness to pay for energy at the expense of comfort"; "the thermostatic device calculates an offset from the effective setpoint and operates the system to maintain a comfort level balancing temperature and humidity within the deadband defined by the effective setpoint and the offset"; "as the characteristic of energy, such as cost, increase, the device varies the offset an amount determined by the selected scenario using a combination of temperature and humidity to aid in reducing the overall energy consumption") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

#### *Conclusion*

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (571) 272-3754. The examiner can normally be reached on 9:30am-6:00pm, M-F.

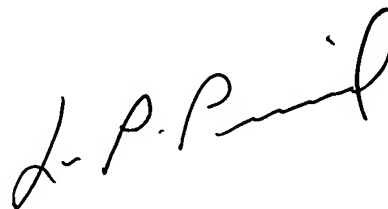
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SPS

Sean P. Shechtman

May 19, 2005



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